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(54) Friction stir welding

(57) Disclosed is a rotating tool(11) for friction stir welding capable of providing uniform welding strength by friction stir welding over the entire length of a butted portion of works(W1, W2) including tack-welded sections by excess metals(S), and method and apparatus of friction stir welding using the rotating tool(11). The rotating tool(11) for friction stir welding has a cutting blade (11A) for removing the excess metals(S). By rotating and moving the rotating tool(11) along the butted portion of the two works(W1, W2), friction stir welding is carried out while removing the excess metals(S) by using the cutting blade(11A). The rotating tool(11) is provided with a shoulder portion(14) at a tip end side of a tool body (12) and a pin(15) at a tip end of the shoulder portion (14). Two cutting blades(11A) may be symmetrically provided from the shoulder portion(14) to a tip end portion of the tool body(12).

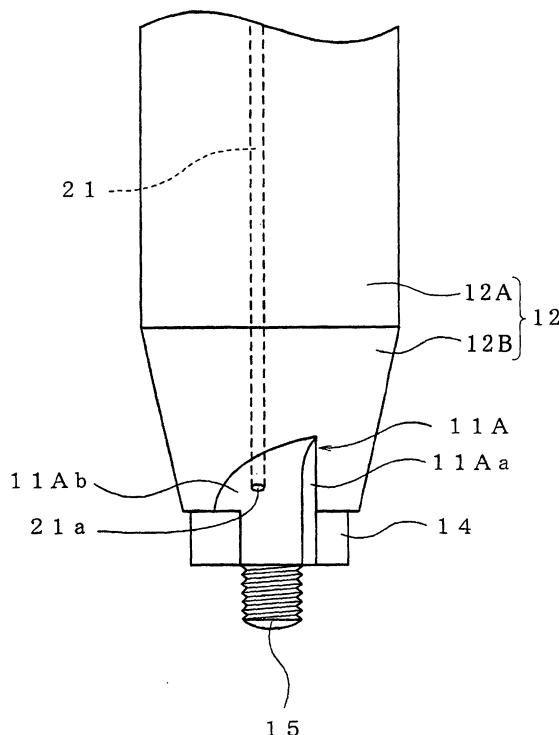


Fig. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 02 25 8015

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X	WO 01 85384 A (UNIV BRIGHAM YOUNG) 15 November 2001 (2001-11-15) * abstract; claims; figures *	1-3, 6-9, 11-14, 19-21	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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The present search report has been drawn up for all claims			
Place of search	Date of completion of the search		Examiner
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CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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